

# DREXELBROOK®

## Safety IntelliPoint RF™ Series

### Two-Wire, Point Level, SIL Conforming Safety Switch



#### One of the Drexelbrook RF Point Level Switches You Won't Have to Calibrate

The RF switch you won't calibrate. Simply install the IntelliPoint RF Series into the tank and apply power... that's it! Unlike other RF or capacitance systems that require calibration via setpoint potentiometers, jumpers, magnets, or pushbuttons, the IntelliPoint RF Series reliably detects the absence or presence of material without any adjustments.

#### Self-Test Feature

Automatic and Local or Remote Manual test functions ensure proper system operation.

#### Auto Verify™

Each IntelliPoint™ is supplied with a continuous self-test feature that constantly monitors the integrity of not just the electronics, but the sensing element and interconnecting cable. If a fault is detected, the IntelliPoint Auto Verify™ feature alerts plant personnel.

#### Manual Certify™

The IntelliPoint™ provides a method to manually test the entire system without removing the sensor from the tank. The Manual Certify Test checks that the Auto Verify circuits are operating and confirms the probe and cables are properly connected. The Manual Certify also allows the IntelliPoint™ electronics to sense changes in the probe that simulate contact with the media or a floating roof. This provides the user with a method to insure working performance without having to climb the tank. At the completion of the Certify test routine, the output is momentarily held in the alarm state so personnel can confirm that the control circuits connected to the Final Control Element are functioning properly.

#### Intelligent Electronics

- Meets Title 49 Part 195 DOT and API 2350 regulations.
- For use in safety related systems with requirements for functional safety for SIL2 (SIL 3 with Redundant Switch) In accordance to IEC61508-2, Sec. 7.4.3.1 1999 (Conforms to SIL, FMEDA Requirements - Exida)
- No calibration or setpoint adjustments.
- Automatically recognizes and ignores coatings to prevent false alarms.
- Continuous self-test monitors circuits and sensing elements for faults.
- Remote or Integral Electronics

#### Diverse Applications

- Liquids, Slurries, Interfaces and Granulars.

#### Dual Compartment Housing

The dual compartment housing separates the customer wiring from the sensing element and operating circuits. The encapsulated power supply/terminal block design eliminates the possibility of damage caused by moisture in the conduit.

# IntelliPoint RF™ Series

## Specifications

**Technology:**

RF Admittance

**Calibration:**

None

**Modes Of Operation:**

High Level Fail Safe

**Repeatability:**

2 mm (0.08 inch) conductive liquids

**Response Time:**

Less than one second

**Ambient Electronic Temperature:**

-30 to 70°C (-28 to 158°F)

**Storage Temperature:**

-40 to 85°C (-40 to 185°F)

**Indicators:**

LEDs: Green Power, Red Alarm

**Self-Check:**

AutoVerify automatically and continuously checks electronics and sensing element for faults. Manual Certify checks that the AutoVerify circuits are functioning.

**Time Delay:**

0-60 seconds, forward acting

**Supply Voltage:**

13-30 Vdc

**Power Consumption:**

2 watts maximum

**Output:**

8 mA - Alarm		8 mA - Normal
16 mA - Normal	or	16 mA - Alarm
22 mA - Fault		5 mA - Fault

**Housing:**

Dual Compartment, Powder-Coated aluminum with two cable entries

**Cable Entry:**

M20 x 1.5 CENELEC

¾-inch NPT FM/CSA

**Ingress Protection:**

IP66 NEMA 4, 4X

**Approvals:**



FM approved. Explosion-proof for use in Class I, Division 1, Groups A, B, C, & D; Dust-Ignition proof for Class II, III, Division 1, Groups E, F, & G; Non-incendiary for use in Class I, Division 2, Groups A, B, C & D; Suitable for Class II, III, Division 2, Groups F & G Hazardous (Classified) Indoor and Outdoor Type 4, 4X, IP66 locations with Intrinsically Safe connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G hazardous (Classified) locations in accordance with entity requirements and control drawing 420-0004-173-CD.



Class I, Groups A, B, C, and D with Intrinsically Safe sensing element; Class II, Groups E, F & G; Class III



II 1G EEx ia IIC T5 Ta = -30°C - +75°C  
II 1D T90°C



**MTTF (Mean Time to Failure):**

110 Years, Independently Tested

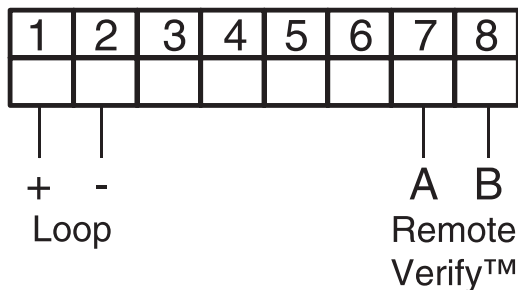
**Safety**

SIL2 (SIL 3 with Redundant Switch)

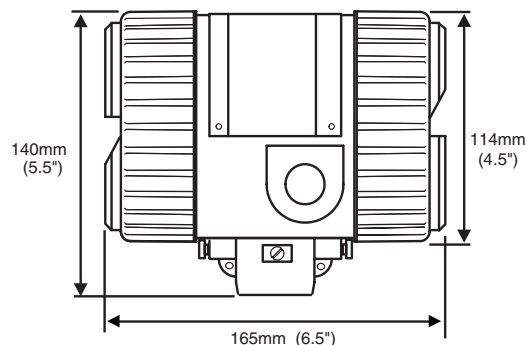
IEC61508-2, Sec. 7.4.3.1 1999

FMEDA Tested for conformity by Exida.com®

## Wiring



## Dimensions



# IntelliPoint RF™ Series

## Model Numbering (continued on next page)

● Safety Switch			
S			
● SIL			
1	SIL1		
2	SIL2		
● Technology			
R	RF Admittance		
● Measurement Type			
L	No Calib., 2 pF Fixed Preload		
● Input			
T	Two Wire Power Supply 13-30 VDC		
● Housing			
0	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries		
1	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries		
2	ATEX Approved, NEMA 4X/IP66, M20 X 1.5 conduit entries		
3	FM Approved, NEMA 4X/IP66, ¾" NPT conduit entries		
4	CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries		
5	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries, Dual Seal, Perm-a-Seal sensors – only		
6	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only		
7	FM Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only		
8	CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only		
9	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
A	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
B	FM Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
C	CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
● Electronics			
0	Integral	7	Rmt. w/ (25 ft.) Tri-Ax Cable
1	Remote, no cable	8	Rmt. w/ (50 ft.) Tri-Ax Cable
2	Rmt. w/ 3 m (10 ft.) G.P. Cable	9	Rmt. w/ (75 ft.) Tri-Ax Cable
3	Rmt. w/ 7.6 m (25 ft.) G.P. Cable	A	Rmt. w/ (10 ft.) Hi-Temp. Cable
4	Rmt. w/ 10.6 m (35 ft.) G.P. Cable	B	Rmt. w/ (25 ft.) 1st 10ft Hi-Temp. Cbl.
5	Rmt. w/ 15.2 m (50 ft.) G.P. Cable	C	Rmt. w/ (35 ft.) 1st 10ft Hi-Temp. Cbl.
6	Rmt. w/ 23 m (75 ft.) G.P. Cable	D	Rmt. w/ (50 ft.) 1st 10ft Hi-Temp. Cbl.
		E	Rmt. w/ (75 ft.) 1st 10ft Hi-Temp. Cbl.
		F	Rmt. w/ (5 ft.) G.P. Cable
		G	Rmt. w/ (5 ft.) Tri-Ax Cable
		H	Rmt. w/ (10 ft.) Tri-Ax Cable
		J	Rmt. w/ (35 ft.) Tri-Ax Cable
		K	Rmt. w/ (5 ft.) Hi-Temp. Cable
● Output			
0	8-16mA Output		
● Sensing Element			
	<b>Application</b>	<b>Sensing Element</b>	<b>Pressure/Temperature</b>
00	General purpose	700-1202-001 remote 700-1202-021 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
01	Floating roof with cable attachment and brass bottom weight	700-1202-012 remote 700-1202-022 integral	13.8 bar @ 177°C (200 PSI @ 350°F)
02	General purpose, longer insertion lengths with cable attachment and 316SS bottom weight	700-1202-014 remote 700-1202-024 integral	13.8 bar @ 177°C (200 PSI @ 350°F)
03	Proximity	700-1202-018 remote 700-1202-028 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
04	General purpose, high temperature and pressure	700-1202-041 remote 700-1202-042 integral	69 bar @ 121°C (1000 PSI @ 250°F) 20.7 bar @ 232°C (300 PSI @ 450°F)
06	General purpose with FDA approved materials of construction	700-1202-031 remote 700-1202-032 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
07	General purpose Granular materials	700-1202-010 remote 700-1202-020 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
09	General purpose Granular materials with FDA approved materials of construction	700-1202-033 remote 700-1202-034 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
10	Corrosive liquids (2)(4)(9)	700-0001-018 remote	3.4 bar @ 149°C (50 PSI @ 300°F)
11	General purpose, higher pressure TFE compatibility required	700-0201-005 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)
12	Corrosive material, higher pressure Hastelloy C	700-0201-005 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)
13	Sanitary (3)	700-0201-036 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 300°F)
14	General Purpose, low pressure	700-0202-002 int/rem	3.4 bar @ 149°C (50 PSI @ 300°F) 1.4 bar @ 232°C (20 PSI @ 450°F)
15	Heavy duty, agitated tanks or material with high bulk density (1)	700-0202-043 remote	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)
16	High Integrity Seal for Hazardous Materials	700-0002-360 int/rem	34.5 bar @ 149°C (500 PSI @ 300°F)
17	Sanitary (3) lowpressure	700-0202-036 int/rem	3.4 bar @ 149°C (50 PSI @ 300°F)
18	Corrosive material, higher pressure with waterlike viscosity (4)	700-0001-022 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500 PSI @ 300°F)
19	Interface Measurement	700-0002-023 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500 PSI @ 300°F)
20	Miniature Pilot Plant Sensor (1)(7)	700-0209-002 remote	6.9 bar @ 121°C (100 PSI @ 250°F) 0 bar @ 232°C (0 PSI @ 450°F)
	<b>Wetted Parts</b>		
	316SS and PEEK		
	316SS, Brass, and PEEK		
	316SS and PEEK		
	316SS and PEEK with 76 mm (3) 316SS proximity plate		
	316SS and PEEK		
	316SS and FDA grade PEEK		
	316SS and PEEK with 7/8 inch dia. 316SS collar		
	316SS and FDA grade PEEK with 7/8 inch dia. 316SS collar		
	PFA		
	316SS and TFE		
	316/316L SS and TFE		
	316SS and TFE		
	316SS and TFE		
	316SS and TFE		
	316SS and TFE		
	316 SS and TFE		

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